

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATIONS**

**UPLAND WILDLIFE HABITAT MANAGEMENT
(acre)
CODE 645**

**PERMANENT COVER (GRASSES,
LEGUMES, FORBS)**

Establishment

Encourage the seeding, establishment, and management of annual native grasses, legumes, croton, common ragweed, pokeweed, and other native wildlife food plants already at the site by early spring disking of contour strips next to wildlife cover. The area to be treated should not exceed one disk in width in highly erodible soils (usually rotated once to different areas every 3 or 4 years) to insure regeneration of desired plants.

Use native plants in plantings when practical since they are well-adjusted to sites, less invasive, and likely to provide quality habitat without long-term maintenance. But due to cost, availability, and landscape position, native plants may not be feasible in all situations.

Agronomy Technical Note 1, "Conservation Practice Seeding Rates and Dates", and the attached Table 1 will be used to determine plantings for wildlife.

Where wildlife habitat development is the producers' primary objective and will occur only on NHEL soil mapping units, seeding rates in Agronomy Technical Note 1 may be multiplied by a factor of 0.75. This reduced rate will provide for a more "open" stand and allow space for other annual plant growth. Erosion rates must remain within tolerable limit (T) after treatment. Gully erosion must also be controlled by proper

treatment.

It is recommended to consider the eradication of introduced invasive plant species, such as tall fescue. This eradication is often necessary to provide suitable conditions for grassland development. Recommendations are found in Job Sheet – Conversion of Exotic Perennial Cool-Season Grass to Native perennial Warm-Season Grass.

Interseeding of legumes and forbs into existing grass stands can provide a needed food source and add plant diversity to attract beneficial insect populations. Agronomy Technical Note 1 will be used for appropriate seeding mixtures and techniques.

Management

Used alone or in combination with other techniques, mechanical methods can successfully manipulate successional stages of habitat. See Early Successional Habitat Development/Management (647), Restoration and Management of Declining Habitats (643), and the Job Sheet on Strip Mowing and Strip Disking for Wildlife Habitat.

Disking strips in existing stands may be needed to increase the amount of open ground and encourage a diverse plant community of annual and perennial plants. Disk between February 15 and March 15 in strips 2 to 4 mowers wide on less erosive sites. Disk on a 2 to 4 year rotation, depending on density, species, and growth

rates of plants. A 1 to 2 year rotation may be needed for bobwhite quail.

Annual mowing or mowing of entire stands is discouraged since it greatly decreases plant diversity, and reduces residual cover available for the following nesting season.

If mowing is necessary two options are available. Mow between August 15 and September 15 to protect ground nesting wildlife and allow residual growth. Mow no more than one-half of the field every year. Rotate mowed strips across the field every year. Mow cool season grasses no shorter than 6 inches. Native warm season grasses should be mowed no shorter than 10 inches.

A second option for mowing would be strip mowing in late winter. Mowing can be done February 15 to March 15 to encourage vegetative diversity without greatly impacting ground nesting activities or loss of fall food plants. Mow no more than one-half of the field every year. Rotate mowed strips across the field every year.

If mowing is used as a habitat management practice, residues will be thoroughly shredded to prevent excess litter accumulation.

Use Prescribed Grazing (528A) to manipulate plant succession, reduce ground litter, and provide dusting areas. Livestock can be beneficial to maintaining the quality of herbaceous cover and controlling invasive plants when managed according to a grazing plan with wildlife habitat management as the primary objective. This technique requires close management supervision to assure the site is not over-grazed.

Use Prescribed Burning (338) to remove excess litter, which can reduce the quality of wildlife habitat. Controlled fire can allow germination of seed bearing annuals, increase plant species diversity, control

unwanted woody cover, and open up the stand for movement of small animals and birds.

Use selected herbicides to manipulate plant succession and improve habitat diversity. Careful planning and care in application are required in the use of chemicals to improve existing habitat. Selection of a product should be based on several factors including product's effectiveness, non-target species impacts, toxicological risks, and offsite movement of chemicals. See Pest Management (595) for recommendations and precautions.

PERMANENT VEGETATIVE COVER (TREES AND SHRUBS)

Development

Species recommendations will be based on landowner objectives and site potential. Planting trees and shrubs has the potential of adversely affecting non-target species. Soils and site potential should guide the plant species selected.

Woody plantings will follow the criteria and guidelines in Hedgerow Planting (422), Tree/Shrub Establishment (612), Or Windbreak/Shelterbelt Establishment (380). These standards provide guidelines for clump and block plantings and reinforcement of existing woody cover.

Management

Manipulation of woody tree and shrub stands to achieve early successional plant composition encourages re-growth and regeneration (suckering) of palatable and nutritious vegetation beneficial to large mammals. Browse management also increases plant diversity, which supports a variety of other species. Browse management can be accomplished by

mechanical methods (shearing, hand-cutting, mowing, etc.), or prescribed burning.

Encourage old growth trees (greater than 80 years or 16 inches diameter breast height), deferring timber activities to maximize wildlife values on at least 10 percent of the forested area.

Removal of competition will provide sunlight and growing space necessary for full crown development by the target species. Forest Stand Improvement (666) will be used for recommendations on thinning extent and techniques.

Preservation of wildlife trees (den trees and snags) serves many purposes for forest wildlife species. The goal is to leave 7 to 15 snag trees greater than 6 inches dbh/acre. Ideally, leaving 1 snag tree greater than 20 inches dbh, 4 snag trees 10 to 20 inches dbh, and 4 snag trees 6 to 10 inches dbh per acre provide an optimal mix.

Preservation of one den tree greater than 20 inches dbh/acre is recommended.

Artificial nest structures can provide nesting opportunities for cavity or roost-nesting birds. Design, specifications, and construction shall be consistent with plans included in the Arkansas Forestry Association/Arkansas Game and Fish Commission (AG&FC) publication "Woodworking for Wildlife" or other designs specified by a wildlife agency or an NRCS or AG&FC biologist.

Forest openings provide open space necessary for a steady supply of herbaceous foods. Openings also provide important habitats for insects (needed by young birds in spring and summer). Openings of 1 to 3 acres are typically desirable. Woodland sites less than 40 acres in size generally will not benefit from openings. Likewise, caution

should be exercised when proposing openings in woodland sites larger than 250 contiguous acres. Openings in this situation may lead to habitat fragmentation for non-target interior nesting species and increased predation. Consult with an NRCS or AG&FC biologist for specific recommendations.

A number of well-scattered openings are more beneficial than a single large opening of comparable size. If woody vegetation encroachment comprises more than 10 percent of existing openings, it will be controlled to help maintain desired vegetative components. Methods typically include a combination of mechanical, chemical, and prescribed burning practices.

Use Exclusion (472) and Fencing (382) can be used to prevent improper use of wooded areas by livestock.

Brushpiles of at least 15 feet X 15 feet X 8 feet can be developed with the material left from forest stand improvement or opening development. The number and location will be dictated by the objectives of the land user and recommendations based on habitat assessment by an NRCS or AG&FC biologist.

EDGE HABITAT

Development/Management

High-quality edge is a wide band of plants that gradually change from one cover type to another. See Field Border (386) for more information. A minimum width of 30 ft. is required to prevent excessive predation on wildlife in these transitional areas.

When edges are created in an area that is grazed, the edge will be fenced to exclude livestock.

Planting shrubs/small trees at the edge of the field can create Woodland Edge. Hedgerow Planting (422), Tree/Shrub Establishment (612), Windbreak/Shelterbelt Establishment (380), and “Woody Species That Are Commercially Available For Use in All Wildlife Habitat Plantings” provide species and planting guidelines. A minimum of two rows will be planted.

A cutback border can also be created along a woodland edge. Overstory trees are removed to favor shrubs, vines and herbaceous vegetation. Regrowth in these cutback borders will provide benefits for 5 to 10 years. Cut stumps may be allowed to sprout or stump-treated, depending on woody species selection objectives.

To maintain maximum values in the cutback border, the area should be re-treated when at least 50 percent of the vegetation exceeds 15 feet tall.

Edges can be allowed to revert to native plants, if invasion by non-desirable plants will not be a problem. Plowing and disking the designated border can speed the plant succession process. This technique will only be used on non-erosive slopes.

Conversion of existing sod may also be necessary to provide the proper seedbed. Recommendations are found in Conservation Cover (327), Pasture and Hay Planting (512), and Pest Management (595), and Job Sheet – Conversion of Exotic Perennial Cool-Season Grass to Native Perennial Warm-Season Grass. Conservation Practice Seeding Rates and Dates will be used to develop herbaceous edges for wildlife.

Developed edges must be maintained in a condition to meet the owner’s objectives. Herbaceous borders should be treated to control woody vegetation. If mowing is

used, mow only between August 15 and March 15. If mowing is used as a habitat management practice, residues will be thoroughly shredded to prevent excess litter accumulation.

Artificial nest structures can provide nesting opportunities. Design, specifications, and construction shall be consistent with plans included in the Arkansas Forestry Association/Arkansas Game & Fish Commission publication “Woodworking for Wildlife”, or other designs specified by a technical wildlife agency.

Cropfield Management

Many conservation practices provide high quality habitat components in cropfields. Introduction of cover types and plant diversity add to increased habitat values.

Conservation Crop Rotation (328), Residue Management (329A, B, C & 344), and Contour Buffer Strips (332) can all provide positive habitat values. Field Border (386) and Grassed Waterways (412) can introduce a valuable grassland component into cropfield situations when beneficial species and management are used.

Reduced/eliminated chemical use will allow significant growth of annual plants, thus enhancing the cropfield values for wildlife.

Leave unharvested grain strips along edges of other cover types. Strips should be at least 30 feet wide and at least one-quarter acre in size.

Wildlife Food Plots

Many wildlife species depend on and prefer native weed seeds and wild fruits for winter food. Additional high-quality food can be provided in the form of green browse or standing grain food plots. The location and

spacing will be based on habitat assessments by NRCS conservationists/biologists, or AG&FC biologists.

Grain Plots

The minimum size of a grain food plot is one-quarter acre (about 12,000-sq.ft.), except where deer are abundant. Then plots need to be larger or more abundant or both. Grain food plots over 4 contiguous acres are generally not needed. Plots should be at least 30 feet wide. As a rule, one-grain plot for every 40 acres of farmland is a minimum.

Grain food plots should be located adjacent to permanent cover. Brushpiles can be constructed (15 feet X 15 feet X 8 feet) adjacent to food plots to provide cover. Construct at least 6 brushpiles per acre of food plot.

Food plots should be located on the least erosive areas of each field. Soil loss must be within the tolerable limit (T). Adequate vegetative cover must be developed and maintained to provide both wildlife and erosion control benefits. If food plots are relocated or discontinued, the site will be re-seeded based on this standard.

Plots may be located on slopes greater than 5 percent provided soil losses do not exceed tolerable limit (T). Plots planted on the contour are recommended.

The food plot should be adequately fertilized. Weed control is not required as the presence of some weeds such as foxtail and ragweed actually benefit wildlife by providing higher protein and greater numbers of seeds than domestic grains.

Food plots will be protected from livestock grazing.

Plantings shall be seeded at proper time to

ensure maturity of food plants.

Annual Food Plants and Seeding Rates

Sorghum seeds are rich in energy, persistent on the plant, and usually available to wildlife when snow or ice covers other seeds. If only one grain is to be planted, grain sorghum (milo) will give the best results. Plant grain sorghum at the rate of 16 pounds per acre if broadcast, 10 pounds per acre if drilled and 5 pounds per acre if row-planted. Other recommended single species and broadcast seeding rates: corn 15 lbs./ac, sunflowers 8 lbs./ac, oats 50 lbs./ac, wheat 50 lbs./ac, buckwheat 40 lbs./ac, and millets 20 lbs./ac (these rates can be reduced by 50 percent if drilled or row planted).

Grain Mixtures are:	Pounds per Acre:
1. Grain Sorghum	8
Soybeans	12
2. Grain Sorghum	8
Soybeans German	8
Millet	2
3. Grain Sorghum	12
Sunflowers	8

An NRCS Biologist or other wildlife technical agency may recommend other food plot mixtures.

Green Browse Food Plots

Green browse food plots should be at least one acre. Plots should be located on non-erosive areas. Soil loss must be within tolerable limit (T).

The site should be open, tillable and next to suitable cover. Place the plot at least 50 feet from any woodland edge to reduce competition from trees and allow sunlight to reach the planting. A buffer strip of perennial weeds and woody shrubs should be encouraged to develop over time between the browse plot and the timber.

Providing correct nutrient application will help ensure successful establishment and growth of the food plot.

Seed 30 pounds per acre of wheat and 2 pounds per acre of orchard grass in the fall (September to early October). At this seeding time overseed one-half the plot with 2 pounds per acre of ladino clover and 2 pounds per acre of red clover. The following spring (January to March) the other one-half of the food plot should be overseeded with 10 pounds per acre of lespedeza (Korean, Kobe, Marion, Summit or a mix of these).

An alternate seed mix is 30 pounds per acre wheat, 5 pounds per acre alfalfa, and 2 pounds per acre of red clover.

An NRCS or AGFC may recommend other food plot mixtures.

Green browse plots should be mowed annually between July 1 and July 15 to maintain palatability of browse.

Renovate and re-establish plots every 3 to 4 years.

REFERENCES

NRCS (Arkansas) job sheets and management guides:

Considerations for Whitetailed Deer Habitat

Conversion of Exotic Perennial Cool Season Grass to Native Perennial Warm Season Grass

Fencing For Livestock Exclusion

Filter Strips as Wildlife Habitat

Forest Management for Deer

Forest Management for Quail

Forest Management for Turkey

Forest Openings for Wildlife Management

Fundamentals for Wildlife Management

Hedgerow Plantings for Wildlife

Managing Pastures and Haylands for Wildlife

Native Perennial Warm-Season Grass Establishment and Management

Prescribed Burning for Wildlife

Riparian Forest Buffers As Wildlife Habitat

Strip Mowing and Strip Disking for Wildlife Habitat

Thinning Pine Plantations for Timber Production and Wildlife Habitat

White-tailed Deer

The Eastern Wild Turkey

Rabbits in Arkansas

Squirrels in Arkansas

Mourning Doves in Arkansas

Ecology and Management of the Northern Bobwhite

Habitat Appraisal Guide for Bobwhite Quail

Habitat Appraisal Guide for Whitetailed Deer

Booklets published by the Arkansas Game & Fish Commission:
 Arkansas Deer – A Manager’s Guide for Private Lands
 Arkansas Quail: Private Lands Management Guide
 The Wild Turkey in Arkansas – History, Biology, and Management
 Wildlife Management for Arkansas Private Landowners

TABLE 1 - SPECIES RECOMMENDED FOR WILDLIFE HABITAT PLANTINGS
HERBACEOUS PLANTS*

<u>Legumes</u>	<u>Grasses</u>	<u>Annuals/Crops</u>	
Alfalfa	Bahiagrass	Wheat	Japanese Millet
Arrow-leaf Clover	Big Bluestem	Oats	Proso Millet
Berseem Clover (Bigbee Cultivar)	Little Bluestem	Rye	Pearl Millet
Crimson Clover	Orchardgrass	Soybeans	German Millet
Red Clover	Switchgrass	Grain Sorghum	Corn
White Clover	Wild Rye	Cowpeas	Egyptian Wheat
Partridge Pea	Eastern Gamagrass	Sunflowers	Chufa
Annual Lespedeza	Ryegrass	Browntopmillett	Combine Hegari
	Panicums		
	Paspalums		

*For details on planting and management refer to the following guides in Job Sheets and Technical Notes on Biology, Plant Materials, And Streambank Restoration:

1. NRCS (Arkansas) Agronomy Technical Note 1, “Conservation Practice Seeding Rates and Dates”, February 10, 2000.
2. NRCS (Arkansas) Planting Guides.
3. “Managing Pastures and Haylands for Wildlife”, by R. McPeake, J. Jennings, F. Ward, D. Long, University of Arkansas Cooperative Extension Service.

WOODY PLANTS

All recommended tree and shrub species are listed with planting details in NRCS (Arkansas) Planting Guides and “Woody Species That Are Commercially Available for Use in All Wildlife Habitat Plantings”, NRCS, Arkansas, in Ecological Sciences Reference Guide (Volume1).